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Perspektif: Pengajian Siswazah di Unimas

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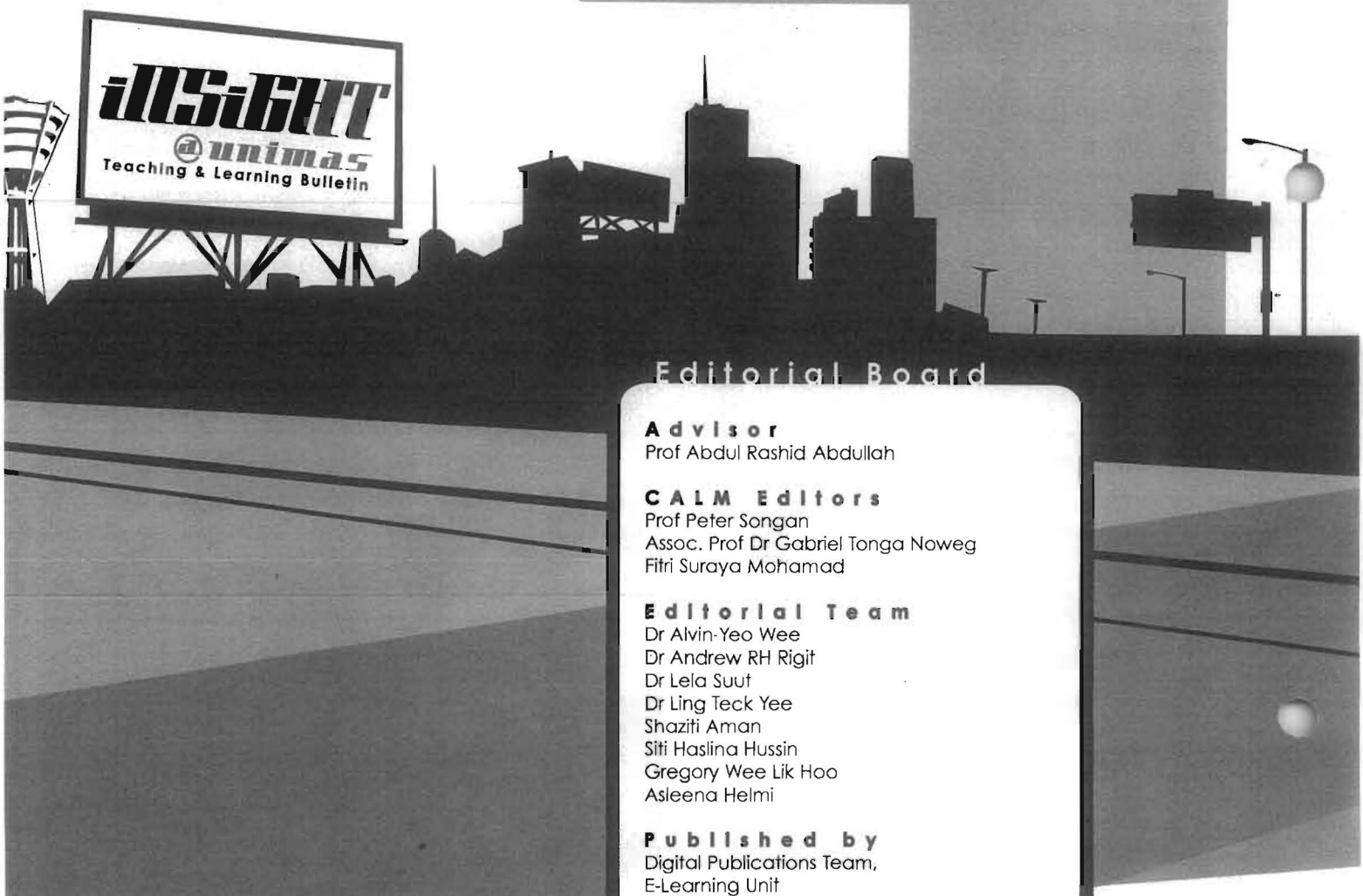

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introductory notes

This edition of Insight focuses on the postgraduate studies in Unimas. The University offers a broad range of post-graduate programs in a multitude of disciplines. Master or Doctorate degrees are offered through research programs, or a combination of research and coursework on a full or part-time basis. The main advantage of having a postgraduate program by research in Unimas is because of its strategic location in the state of Sarawak. The state is endowed with abundance of flora and fauna and rich cultural heritage, which gives an opportunity for students to conduct research in the field of biodiversity, biotechnology, health science, social sciences, as well as in other fields. Up-to-date, Unimas has produced a total of 474 graduates, including three who had graduated with a PhD degree. To encourage more students to enroll in the postgraduate program by research, the Center of Graduate Studies has introduced a special research fellowship called "Zamalah Pascasiswazah." The objective of this fellowship is to increase the research activities through postgraduate studies, as well as to achieve the university's vision of becoming a research university.

Once again, Unimas held a Special Convocation Ceremony 2004 on 2nd October 2004 for our former Prime Minister, Tun Dr Mahathir Mohamad, who was conferred an honorary Doctorate of Development Studies. The award was given in recognition of his contributions during his 22 years of leadership toward the development of Malaysia as a fast developing industrialized nation. During his speech at the convocation, he stressed on the three main ingredients that are necessary for local universities to produce quality graduates. First, local universities need to set more stringent entry requirements based mainly on academic achievement. Secondly, local universities should ensure that their lecturers are highly qualified. Finally, local universities should create a good learning environment for the students.

The Academic Quality Assurance Unit (AQA) and the Training Unit jointly organized another series of AQA workshop on the 26th – 28th of August 2004. The objective of this workshop is to help the faculties in preparing their Faculty Database and their Self Assessment Report. Besides, it gives the opportunity for the AQA Unit to share with the faculties the current information about the quality assurance program of the Ministry of Higher Education.

By the end of this year, I hope all of us have achieved our resolutions that we have made at the beginning of the year. I hope in the coming 2005, we can come up with some new and better resolutions to propel ourselves forward, and also to continue contributing more fresh and new ideas for effective teaching and learning at our university.

Prof Peter Songan
Dean CALM

Perspektif: Pengajian Siswazah di Unimas

Ditubuhkan pada 1 April 2003, Pusat Pengajian Siswazah memegang watak penting dalam memperkasa dan memperkukuhkan program Sarjana dan Kedoktoran di Unimas selaras dengan aspirasi untuk menjadi sebagai antara universiti yang terulung dalam penyelidikan. Bagi merealisasikan matlamat tersebut, Prof Mohd Azib Salleh sebagai peneraju, telah menerima cabaran tersebut dengan azam memartabatkannya ke peringkat antarabangsa, seterusnya menjadikan Unimas pilihan pelajar untuk melanjutkan pengajian ke peringkat lebih tinggi.

Prof Mohd Azib Salleh memperolehi Ijazah BSc dari Monash University dan Ijazah PhD dari La Trobe University, Melbourne, Australia. Bidang kepakaran beliau ialah Genetik Mikrob dan Biologi Molekul. Sebelum menyertai Unimas beliau telah berkhidmat di Fakulti Sains Hayat, Universiti Kebangsaan Malaysia (UKM) selama 11 tahun di mana beliau pernah memegang jawatan Ketua Jabatan Genetik. Beliau berpindah ke Unimas apabila universiti ini dibuka pada pertengahan tahun 1993, dimana pada mulanya beliau dilantik sebagai Timbalan Dekan dan kemudiannya Dekan Fakulti Sains dan Teknologi Sumber. Setelah memegang jawatan tersebut selama 6 tahun sehingga bulan Jun 2002, beliau dilantik pula sebagai Pengarah Bahagian Pengajian Pascasiswazah dan Sokongan Penyelidikan. Dengan penubuhan Pusat Pengajian Siswazah pada 1 April 2003, beliau diberi amanah sebagai Dekan Pengasas. Prof Azib telah menjadi penyelia kepada sembilan orang graduan Sarjana dan seorang graduan PhD. Kini beliau sedang membimbing tiga calon ijazah Sarjana dan dua calon ijazah PhD. Ikuti temubual eksklusif selanjutnya bersama beliau.

S: Mungkin Prof boleh huraikan serba sedikit mengenai tanggungjawab Prof sebagai Dekan Pusat Pengajian Siswazah?

J: Secara umumnya tugas dan bidang tanggungjawab saya sebagai Dekan Pusat Pengajian Siswazah (PPS) ialah untuk menyelaras semua program pascasiswazah di Unimas. Program-program itu sebenarnya ditawarkan oleh semua fakulti/institut di Unimas. Walau bagaimanapun PPS bertanggungjawab dalam menentu dan menyelaraskan peraturan pengajian, kelayakan kemasukan, pemantauan kemajuan pelajar, proses penilaian kursus dan tesis dan akhirnya penganugerahan ijazah kepada pelajar. Kita telah membuat garis panduan bagi penerimaan pelajar, pengendalian kursus, penulisan dan persembahan tesis, penilaian tesis, peperiksaan lisan dan sebagainya, bagi memastikan mutu atau kualiti program pascasiswazah kita setanding dengan apa yang ditawarkan di universiti-universiti ternama. Umpamanya, untuk penilaian tesis telah ditetapkan keperluan melantik pemeriksa luar, iaitu, seorang pakar daripada universiti lain sama ada dalam atau luar negara, di samping pemeriksa dalam yang terdiri daripada staf akademik Unimas dalam bidang pengkhususan yang sesuai.

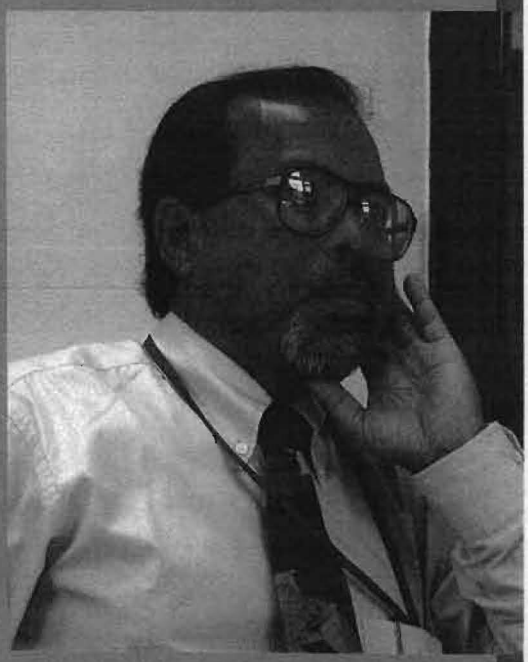
PPS juga menguruskan skim-skim zamalah atau biasiswa yang ditawarkan kepada pelajar pascasiswazah. Setakat ini kita menguruskan proses pemilihan calon untuk skim Zamalah Kementerian Sains Teknologi dan Inovasi (Zamalah KSTI) dan Zamalah Pascasiswazah Unimas (ZPU). Kita akan berusaha untuk menambah jenis dan bilangan zamalah/biasiswa yang boleh ditawarkan kepada pelajar terutama melalui sumbangan daripada pihak swasta. Perlu dinyatakan bahawa skim-skim zamalah/biasiswa ini bersifat kompetitif dan hanya pelajar yang memenuhi kriteria, syarat dan kelayakan tertentu sahaja dipilih sebagai penerima.

Selain itu, PPS juga memberi bantuan sekiranya fakulti/institut ingin menawarkan program baru, terutama dari segi mengemaskinikan dokumen-dokumen yang berkaitan bagi tujuan mendapat kelulusan daripada pihak Jabatan Pendidikan Tinggi (JPT), Kementerian Pendidikan Tinggi.

S: Pusat ini telah diwujudkan sejak 1 April 2003. Jadi, setakat ini apakah perkembangan dan bagaimanakah sambutan yang diterima oleh PPS dari pelajar?

J: Saya berpendapat PPS telahpun berjaya meningkatkan profil program pascasiswazah di Unimas. Melalui program promosi berterusan, pengwujudan skim bantuan kewangan dan aktiviti-aktiviti ilmiah, PPS telah dapat meningkatkan minat graduan untuk meneruskan pengajian ke peringkat Sarjana/PhD dalam berbagai bidang. Ini dapat digambarkan dari peningkatan jumlah pelajar yang sedang mengikuti program-program berasaskan penyelidikan dan kerjakursus. Memang menjadi objektif kita untuk menjadikan program pascasiswazah sebagai pentas utama percambahan ilmu dan perkembangan intelektual di universiti ini. Kita juga ingin melihat program pascasiswazah, khususnya yang berasaskan penyelidikan, menjadi pencetus dan pemangkin kepada penemuan saintifik dan inovasi mendapat pengiktirafan di peringkat antarabangsa. Insya-Allah ini akan tercapai dalam masa yang terdekat.

Dari segi penerimaan oleh pelajar, saya rasa kita telahpun berjaya menonjolkan PPS sebagai pusat yang "mesra-pelajar". Jika sebelum ini pelajar pascasiswazah hanya berada di fakulti masing-masing membuat penyelidikan atau mengikuti kursus, kini mereka berpeluang berjumpa dan berinteraksi dengan pelajar lain apabila mereka datang ke PPS, samada untuk urusan mengenai hal-hal akademik atau untuk menggunakan kemudahan yang kita sediakan. Kita menyediakan Bilik Sumber dilengkapi dengan



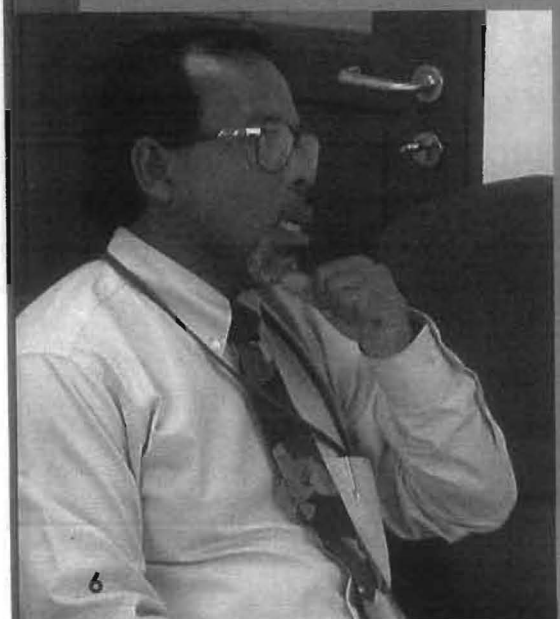
Kita juga ingin melihat program pascasiswazah, khususnya yang berasaskan penyelidikan, menjadi pencetus dan pemangkin kepada penemuan saintifik dan inovasi mendapat pengiktirafan di peringkat antarabangsa

beberapa buah komputer yang mempunyai jaringan internet bagi memudahkan pelajar membuat tugasan, menyediakan kertaskerja seminar, menyiapkan manuskrip untuk penerbitan dalam jurnal dan sebagainya.

Pelajar juga datang ke PPS untuk mendapatkan khidmat nasihat mengenai program-program tertentu. Orang awam yang berminat untuk mengikuti program yang ditawarkan di Unimas juga datang mendapatkan maklumat serta risalah-risalah berkaitan. Bagi memudahkan penyebaran risalah mengenai program yang ditawarkan, PPS telah meletakkan beberapa *brochure stands* di sekitar kampus. Ini termasuk di Pusat Khidmat Maklumat Akademik (CAIS), di hadapan Pejabat Fakulti Sains Sosial, di hadapan Pejabat Bahagian Pengajian Prasiswazah dan di luar pintu masuk ke PPS sendiri.

S: Bagaimana pencapaian graduan setakat konvokesyen ke 8 baru-baru ini?

J: Pada tahun 1997, kita telah berjaya melahirkan seramai 31 orang graduan peringkat ijazah Sarjana dan ini meningkat kepada 39 orang pada tahun 1998. Pada tahun ini seramai 78 orang ijazah Sarjana bergraduat. Manakala bagi ijazah PhD setakat ini hanya 3 orang graduan dihasilkan iaitu dua orang pada tahun 2001 PPS dan seorang pada tahun 2002. Setakat ini Unimas telah melahirkan seramai 474 orang graduan termasuk graduan pascasiswazah secara keseluruhannya. Jumlah ini secara relatifnya masih kecil. Kita berharap dapat meningkatkan lagi jumlah graduan terutama di peringkat PhD.



S: Apakah program yang menjadi pilihan pelajar ketika ini?

J: Unimas menawarkan dua mod pengajian iaitu secara kerjakursus dan secara penyelidikan. Enam program kerjakursus sedang ditawarkan. Program-program ini menarik minat golongan yang sedang bekerja yang ingin mendapat ijazah Sarjana bagi tujuan kenaikan pangkat dan sebagainya. Program melalui penyelidikan pula ditawarkan bagi semua bidang pengkhususan yang mana terdapat kepakaran untuk menyelia projek. Program bentuk ini diminati oleh graduan yang berhasrat menjadi penyelidik atau menyertai kerjaya dalam bidang akademik.

Dari segi statistik pelajar yang mengikuti program pengajian secara kerja kursus lebih ramai berbanding dengan program pengajian melalui penyelidikan.

S: Apakah langkah yang diambil bagi menjadikan Unimas sebagai pilihan pelajar untuk meneruskan pengajian peringkat sarjana dan PhD?

J: Antara langkah-langkah yang telah diambil ialah mewujudkan Zamalah Pascasiswazah Unimas atau ZPU yang menawarkan elaun bulanan sebanyak RM1400.00 bagi ijazah Sarjana dan RM1600.00 bagi PhD. Zamalah ini hanya dibuka kepada pelajar yang mengikuti pengajian melalui penyelidikan. Tujuannya ialah untuk meningkatkan jumlah pelajar sarjana/PhD dan pada masa yang sama mempertingkatkan aktiviti penyelidikan. Ini sesuai dengan wawasan universiti iaitu untuk menjadi sebuah universiti yang berorientasikan penyelidikan.

PPS juga memberi latihan dan pendedahan kepada pensyarah tentang cara dan pendekatan yang efektif untuk menjadi penyelia yang baik, mampu menyelia projek dengan berkesan dan membantu pelajar menghasilkan tesis yang bermutu. Setakat ini, saya telah memberi ceramah kepada sebahagian staf akademik mengenai perkara ini. Saya juga bercadang untuk

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mengadakan bengkel khas untuk staf akademik mengenai penyeliaan pelajar pascasiswazah. Ini termasuklah bagaimana hendak menulis kertas cadangan penyelidikan, penulisan tesis, penilaian tesis, penyediaan kertas seminar dan sebagainya.

Selain itu PPS juga bekerjasama dengan pihak HEP untuk menyediakan tempat tinggal kepada pelajar terutamanya yang datang dari luar negara atau luar daripada kawasan Kuching. Kita sedang berusaha untuk mewujudkan kolej khas untuk pelajar yang sudah berkeluarga

lengkap dengan kemudahan untuk anak-anak mereka.

S: Apakah kelebihan Unimas dari segi program pascasiswazah melalui penyelidikan?

J: Kelebihan yang paling utama ialah dari segi peluang yang banyak untuk menjalankan projek penyelidikan kerana Unimas terletak di Sarawak yang kaya dengan alam semulajadi dan sumber-sumber asli. Ini merupakan satu daya tarikan yang sukar di tandingi khususnya untuk bidang biologi, pemuliharaan alam sekitar dan seumpamanya. Begitu juga dengan bidang Sains Sosial, Sarawak kaya dengan kepelbagaian kaum dan budaya yang boleh dijadikan subjek penyelidikan. Keadaan yang serupa bagi bidang perubatan di mana penyelidikan mengenai beberapa penyakit kawasan tropika yang tidak ada di tempat-tempat lain dapat dilaksanakan.

S: Pada Pandangan Prof antara program pengajian secara penyelidikan dan program berasaskan kerja kursus, yang manakah dapat dibangunkan selaras dengan misi dan objektif Universiti?

J: Pada padangan saya, Unimas mempunyai peluang yang lebih besar untuk memajukan program-program yang berbentuk penyelidikan. Ini berdasarkan kepada keistimewaan yang ada untuk penyelidikan dalam bidang biologi, sains sosial, perubatan dan sebagainya, seperti yang dinyatakan tadi.

Untuk menjadi universiti yang terkenal, Unimas perlu fokus kepada aktiviti-aktiviti penyelidikan dan tidak hanya kepada aktiviti pengajaran dan pembelajaran. Memang menjadi misi PPS untuk memperkembangkan program Ijazah Sarjana dan PhD melalui penyelidikan supaya universiti dapat mencapai hasrat ini.

S: Adakah pihak luar, samada dari sektor awam atau swasta yang menawarkan biasiswa untuk pelajar pascasiswazah UNIMAS?

J: Setakat ini kita menerima peruntukan biasiswa atau zamalah di bawah Program Pembangunan Sumber Manusia Dalam Bidang Sains dan Teknologi, Kementerian Sains, Teknologi dan Inovasi (KSTI) dan Yayasan Sains Kebangsaan (Zamalah NSF). Selain itu kita juga menerima tawaran dari syarikat seperti Sarawak Shell Bhd yang menyediakan geran penyelidikan bagi membantu pelajar untuk menjalankan projek dalam bidang-bidang tertentu. Shell tentunya mengenakan beberapa kriteria dan telah mengenalpasti tajuk penyelidikan yang boleh disokong oleh geran tersebut.

PPS berhasrat untuk memohon sumbangan daripada sektor korporat seperti Petronas dan Sarawak Timber Industry Development Corporation (STIDC) bagi menambah dana bantuan kewangan pelajar. Sekiranya berjaya ia merupakan tambahan kepada zamalah yang sedia ada dan sudah tentu kita dapat menarik minat lebih ramai pelajar untuk mengikuti pengajian di peringkat Sarjana atau PhD di Unimas.

Masalah yang kita hadapi pada ketika ini dalam usaha untuk menarik minat penaja-penaja biasiswa ialah kekurangan kemudahan untuk aktiviti penyelidikan di kampus sementara. Kita berharap apabila kemudahan kita lebih sempurna dan lengkap di kampus tetap kelak, lebih banyak pihak luar yang akan tampil kehadapan dan menawarkan biasiswa kepada para pelajar Ijazah Sarjana dan PhD.

S: Adakah hasil penyelidikan yang telah dijalankan oleh para pelajar kita setakat ini mendapat perhatian yang serius dari agensi awam ataupun swasta.

J: Kebanyakan projek penyelidikan yang dijalankan oleh pelajar di Unimas tertumpu kepada kajian asas. Walaupun demikian, biasanya ia meyumbang kepada satu projek yang lebih besar yang potensi untuk diaplikasi. Misalnya, projek yang dijalankan oleh pelajar di bawah bimbingan Prof Jane

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Cardosa di Institut Kesihatan dan Perubatan Komuniti(IKPK), biasanya khusus mengenai aspek tertentu dan sendirinya tidak ada nilai komersial. Tetapi, ia menyumbang kepada satu projek penyelidikan lebih besar yang mana objektifnya ialah untuk menghasilkan produk yang mempunyai nilai komersial, umpamanya kit untuk dianogsis penyakit jangkitan virus nipah, demam denggi dan sebagainya. Oleh yang demikian, jika pihak luar melihat hasil sesuatu projek penyelidikan pelajar secara berasingan memang tidak jelas aplikasinya, tetapi potensi komersialnya dapat dilihat jika ia digabungkan dengan hasil projek-projek penyelidikan lain yang berkaitan.

Tumpuan kepada penyelidikan asas adalah atas kesedaran bahawa kefahamanan yang lebih mendalam tentang sesuatu bahan proses atau fenomena adalah penting untuk mendapatkan sesuatu aplikasi. Pendidikan seperti ini menjadi amalan para penyelidik di negara maju seperti Amerika Syarikat dan Jepun. Kita dapat lihat bagaimana dengan asas yang kuat dalam penyelidikan asas mereka lebih berjaya menghasilkan produk-produk baru untuk di komersialkan ke seluruh dunia.

S: Pada pandangan Prof, apakah langkah yang terbaik untuk mempertingkatkan prestasi program yang sedia ada sejajar dengan usaha membangunkan bidang Sains dan Teknologi negara?

J: Aktiviti penyelidikan, terutamanya dalam bidang sains dan teknologi memerlukan pelaburan dari segi masa dan kewangan yang banyak. Tetapi jika hasil sesuatu projek berjaya dikomersialkan ia akan memberikan pulangan yang berlipat ganda berbanding pelaburan tadi. Penyelidikan juga dapat menjanakan pengetahuan baru yang penting untuk tamadun masusia. Ramai ahli akademik tidak melihat semata-mata kepada pulangan dari segi pengkomersialan produk tetapi lebih menjurus kepada penemuan pengetahuan yang baru sebagai hasil sesuatu projek penyelidikan. Pengetahuan baru ini juga boleh dianggap kekayaan untuk pembangunan manusia sejagat. Oleh itu bantuan kewangan perlu diperhebatkan di samping kelengkapan yang mencukupi untuk meningkatkan aktiviti penyelidikan dalam semua bidang, baik yang berbentuk komersial atau penyelidikan asas.

S: Bagaimana dengan kelengkapan yang disediakan bagi menyokong kerja-kerja penyelidikan yang dilaksanakan oleh pelajar?

J: Kelengkapan kita setakat ini sebenarnya tidak mencukupi disebabkan oleh beberapa faktor terutamanya kekurangan ruang. Kemudahan seperti makmal yang lengkap adalah penting tetapi ini memerlukan peruntukan kewangan yang tinggi. Keadaan kampus sementara sekarang menghadkan kemampuan kita untuk menyediakan persekitaran yang kondusif untuk aktiviti penyelidikan pelajar pascasiswazah. Kita berharap kampus tetap kita akan siap untuk digunakan secepat yang mungkin.

Ramai ahli akademik tidak melihat semata-mata kepada pulangan dari segi pengkomersialan produk tetapi lebih menjurus kepada penemuan pengetahuan yang baru sebagai hasil sesuatu projek penyelidikan

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S: Pelajar yang bekerja kuat, kreatif dan mempunyai azam yang tinggi dikatakan mampu menghasilkan kerja-kerja penyelidikan yang berkualiti. Apa

komen Prof berkaitan dengan perkara ini?

J: Ya, saya bersetuju bahawa pelajar sedemikian biasanya mampu melaksanakan kerja-kerja penyelidikan yang berkualiti. Ini kerana mereka boleh mengatasi segala kerumitan dan masalah yang sentiasa dihadapi dalam aktiviti penyelidikan. Rekod akademik yang baik, walaupun sangat penting, tidak menjamin seseorang itu menjadi penyelidik yang baik. Ada pelajar yang mempunyai CGPA yang rendah, tetapi jika mereka kreatif dan dapat menggunakan peluang sepenuhnya serta mempunyai inisiatif sendiri, akan dapat melaksanakan sesuatu projek penyelidikan yang baik.

Oleh itu, dalam pemilihan dan pertimbangan permohonan daripada pelajar untuk masuk ke program Sarjana/PhD di samping keputusan akademik yang baik, kriteria lain juga diambilkira. Begitu juga untuk permohonan mendapatkan zamalah. Umpamanya kita melihat cadangan projek penyelidikan dengan teliti bagi menentukan samada pelajar itu memahami permasalahan yang hendak dikaji dan apakah maklumat latar yang perlu diketahui sebelum beliau menjalankan projek itu.

S: Program Ijazah Sarjana melalui penyelidikan dilaksanakan secara separuh masa dan sepenuh masa. Bagaimanakah pihak PPS memantau kualiti penyelidikan ini?

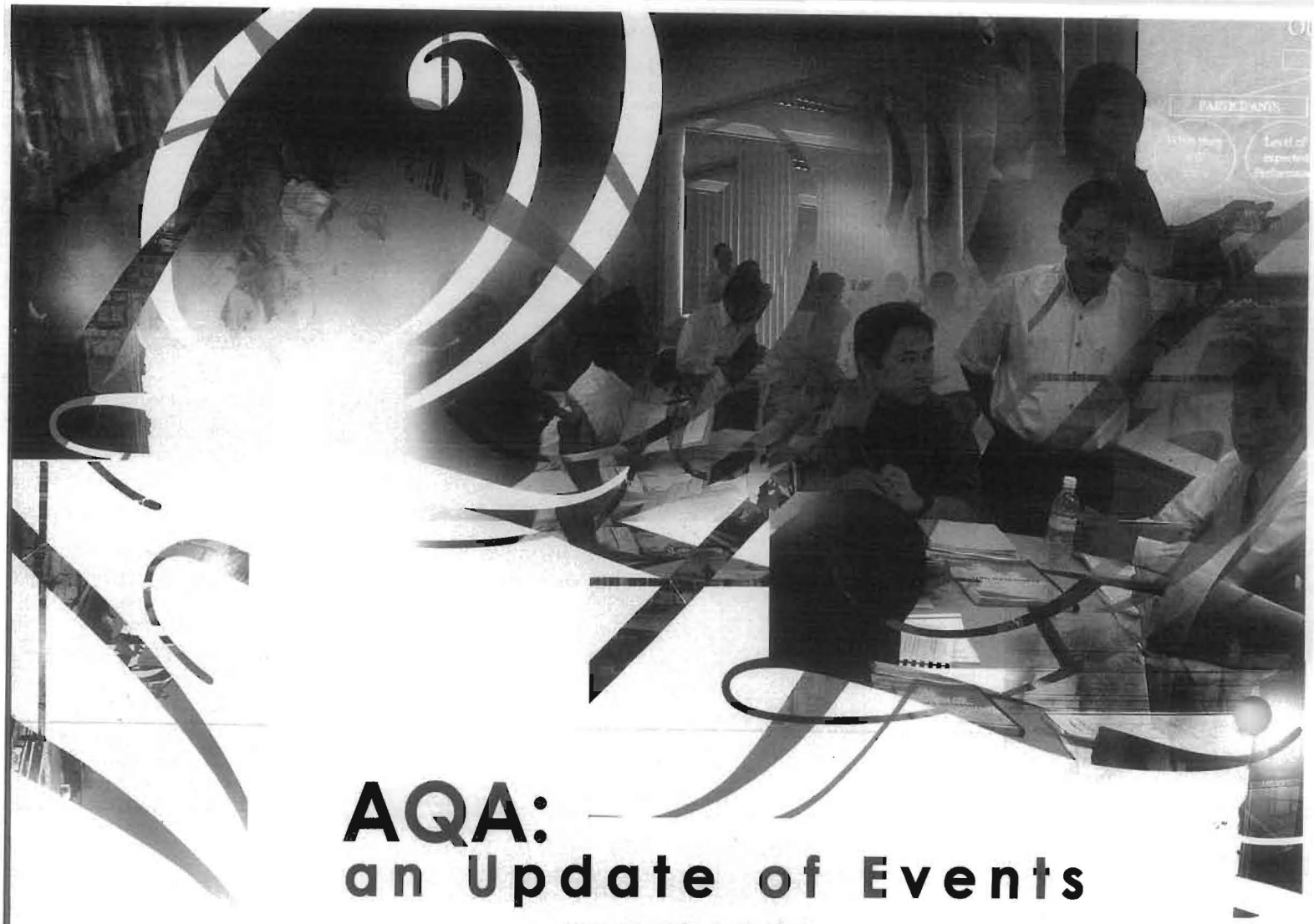
J: Pada setiap semester para pelajar diminta menghantar laporan kemajuan yang telah disahkan dan disokong oleh penyelia masing-masing. Kita juga melihat komen daripada Jawatankuasa Pascasiswazah peringkat fakulti yang menilai tahap pencapaian projek penyelidikan yang telah dijalankan. Laporan ini juga akan diteliti oleh Jawatankuasa Pascasiswazah peringkat universiti yang akan menentukan samada seseorang pelajar itu akan dibenarkan meneruskan pengajian ataupun sebaliknya. Jika didapati laporan tidak memuaskan, maka jawatankuasa akan membuat perakuan untuk memberhentikan pengajian seseorang pelajar.

Sehubungan dengan itu kita memerlukan kelengkapan yang cukup dan lebih sempurna, tenaga akademik berkaliber dalam berbagai bidang yang mampu menarik minat pelajar terbaik dari dalam atau luar negeri

Jawatankuasa ini dipengerusikan oleh Timbalan Naib Canselor (Akademik) dan dianggotai oleh semua Dekan/Pengarah. Pemantauan ini dilakukan untuk pelajar separuh masa dan sepenuh masa. Bagi pelajar sepenuh masa kita mengharapkan hasil penyelidikan mereka adalah lebih baik kerana mereka dapat mengatur jadual yang lebih kemas untuk aktiviti penyelidikan mereka.

S: Apa harapan dan pandangan Prof terhadap program Ijazah Sarjana dan PhD di Unimas lima hingga sepuluh tahun yang akan datang?

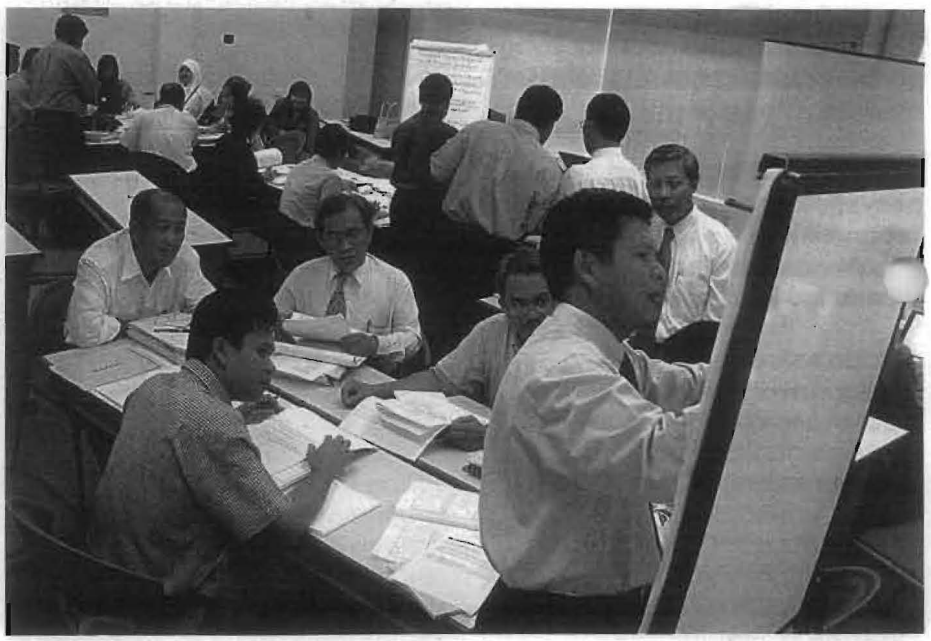
J: Saya mempunyai harapan yang tinggi tetapi pada masa yang sama saya perlu bersifat realistik. Saya berharap pada tahun 2005, jumlah pelajar pascasiswazah dapat mencapai angka 10% daripada keseluruhan enrolmen pelajar yang mendaftar di Unimas. Kini kita menghampiri peratusan tersebut. Seterusnya saya berharap kita dapat meningkatkan jumlah tersebut secara berperingkat-peringkat sehingga mencapai 15% pada tahun 2010. Dalam pada itu adalah penting juga kita berusaha meningkatkan kualiti pelajar. Dengan itu barulah kualiti projek penyelidikan pelajar Sarjana dan PhD mampu mencapai taraf antarabangsa. Sehubungan dengan itu kita memerlukan kelengkapan yang cukup dan lebih sempurna, tenaga akademik berkaliber dalam berbagai bidang yang mampu menarik minat pelajar terbaik dari dalam atau luar negeri. Jika ini dapat direalisasikan sudah pasti hasil penyelidikan pelajar pascasiswazah Unimas akan dapat ditingkatkan. Hasil tersebut akan dapat diterbitkan dalam jurnal antarabangsa yang mempunyai impak yang tinggi. Penemuan-penemuan baru juga akan dapat dipaten dan dikomersialkan. Ini akan meletakkan nama Unimas sama taraf dengan universiti-universiti ternama di dunia. Itulah yang menjadi impian saya.



AQA: an Update of Events

By:: Flora Bungan Balang bflora@calm.unimas.my

In University Malaysia Sarawak (UNIMAS), the common practice is that each faculty is responsible in controlling and monitoring the quality of its academic programmes. Due to this, a non-standardized academic quality assurance (AQA) occurs among faculties in UNIMAS. This practice does not only happen in UNIMAS, but also in other local universities. The Academic Quality Assurance Division at the Higher Education Department is responsible to standardize the criteria, standards and the process of AQA at all public universities (IPTA). This year, the division has sent evaluators to the Faculty of Social Science, to conduct four days of external auditing from 24 – 27 February 2004. The Faculty of Social Science is the first faculty in UNIMAS to be audited by the division.



Group discussion session

To guide faculties in preparing documents for the external auditing, the Centre for Applied Learning and Multimedia once again collaborated with the Training Unit to organize the Academic Quality Assurance Workshop. This third workshop was held at the UNIMAS Staff Training Centre, Bau from 26 – 28 September. The objectives of the workshop are to update participants on the current development with regards to AQA from the Academic Quality Assurance Division, Higher Education Department; to familiarize participants about the policy, concept, AQA auditing process and approach; and to help the faculties in preparing their Database and Self Evaluation Report.

Thirty-two participants attended

the workshop. They include the faculties' Deputy Deans (Academic), selected lecturers, assistant registrar, Head of CAIS, BPPA and PPP. The involvement of Assistant Registrars will ensure that they are more aware of the requirements of the system, and that they understand their roles in the process of preparing the database. The workshop was officiated by Prof Rashid Abdullah, the Acting Vice Chancellor of UNIMAS. The workshop was conducted by Associate Professor Dr Gabriel Tonga Noweg, and assisted by other resource persons, Mr. Ahmad Nizar, Professor Dr. Wan Sulaiman, Dr Othman Bojo, Mr Suhaidi Salleh, and Professor Dr. Mohd Shafiq Abdullah.

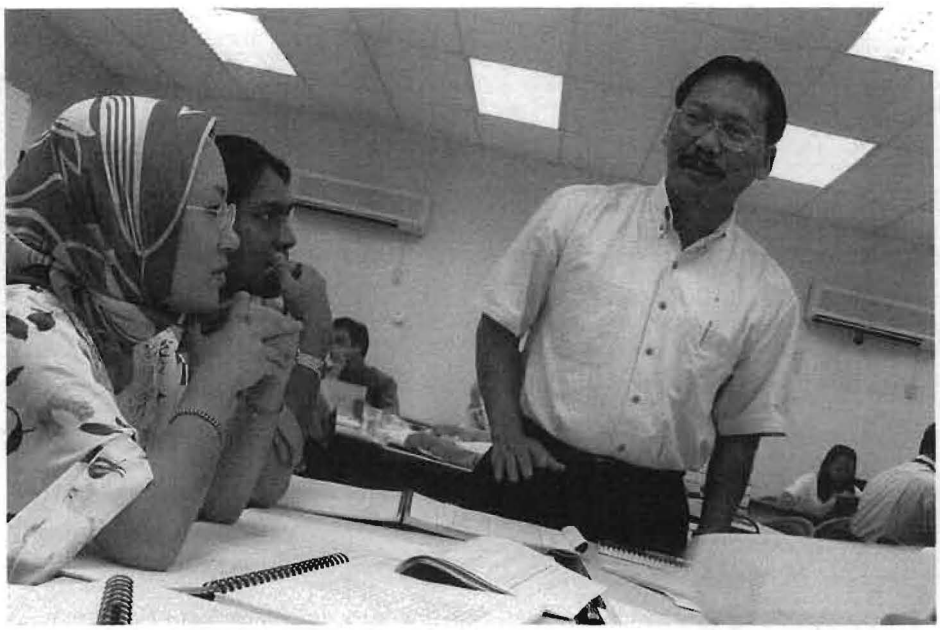
Mr Johari Abdullah from FSKTM shared the knowledge with group members

The workshop was organized into modules. The participants were divided into groups and in some of the modules they were required to do some exercises. The first module was conducted by Associate Professor Dr. Gabriel Tonga. He briefly explained the concept, principles, standards and procedures of AQA in public universities in Malaysia. He also shared his experience during the external auditing of the Faculty of Social Sciences to give a picture of what faculties should expect during the real auditing.

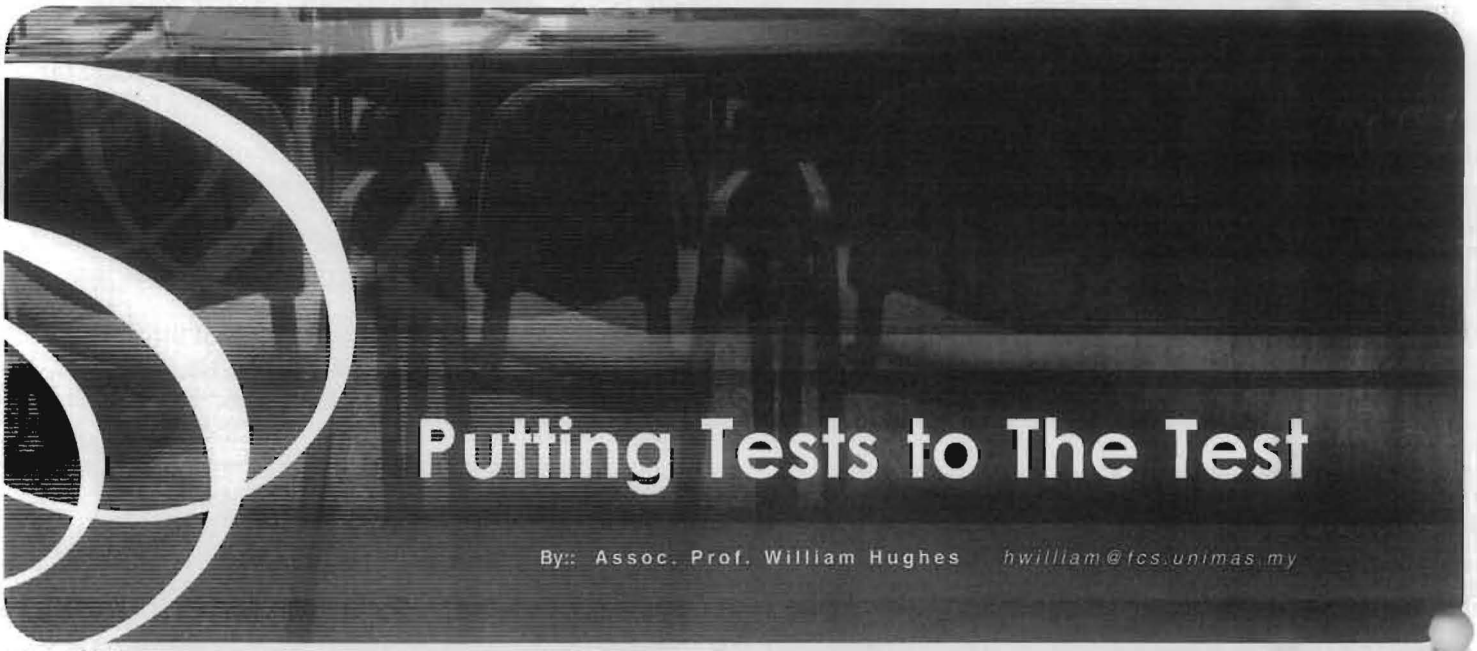
In another module of the workshop, Prof Dr. Wan Sulaiman, assisted by Miss Fitri Suraya Mohamad explained to participants what is learning outcome and its purpose. Based on their experience, they describe the steps in writing good learning outcomes.

In another session, Ahmad Nizar and Prof Dr. Hashami Bohari shared their experience with the participants on what goes on before and during the auditing process. Mr. Ahmad Nizar briefly informed the participants what they should expect during the real auditing. He also shared the obstacles that their faculty faced during the documentation process and reminded participants that teamwork is highly needed. He also mentioned that the AQA process did not involved academician only but the supporting staff also played a major role in documenting the database and without them the documentation is not possible.

During the last session of the workshop, Mr. Ahmad Nizar, Prof Dr. Hashami, Prof Dr. Peter and Prof Dr. Mohd Shafiq shared their experience during the real auditing process. They described the obstacles before and during the auditing process. This is to alert the participants on what to expect during that period. At the end of the workshop, the participants requested that CALM be the coordinator for gathering information from the other service centres, such as, CAIS, CICTS, Finance Division and BPPS. Another suggestion from the participants is that a member who is an expert in AQA should come forward and guide the faculty during the preparation of the document to ensure that mistakes are not make. The workshop was considered a success since it gives the participants a better understanding of the process of AQA. In the future CALM would conduct a similar AQA workshop and the target participants will be the supporting staff.



One of the session conducted by Assoc. Prof Dr Gabriel Tonga Noweg



Putting Tests to The Test

By:: Assoc. Prof. William Hughes hwilliam@fcs.unimas.my

It is common knowledge that there are on the market today assessment and testing instruments to accurately and validly measure almost every human trait or behavior. There are instruments to measure general intelligence, specialized intelligence, personality traits of numerous varieties, career interests, work preferences and many others. In the field of higher education standard, valid tests are frequently used to determine qualifications for entrance to college or the university and perhaps for some, determination of placement or permitted course load after entrance. But, for the most part, the kinds of tests the college or university student will confront up until graduation will be written, unvalidated instruments, authored by the instructor or lecturer of the courses. Of course, there are various forms of student assessment other than tests, but written tests almost always carry the most weight for the grade for a course.

If the written tests for university courses are not scientifically validated, like other marketed standard tests, how can we tell if these tests are a fair and effective assessment of student accomplishment in a course or not? What is actually meant by a test being too easy or too hard? When is a test simply unfair to the students taking it? And what part does the variable of the test play in the overall student results in a course? For instance, if most students in a course receive B and above in a test, does that mean that the test was too easy, that most of the students mastered the course material well or the course material, itself, was too easy? There may be no way to accurately answer all of the above questions without carefully examining all of the variables involved, but one of the variables-the test-is the subject of this article.

Seldom are standardized, validated tests used in college or university courses for the simple reason that such courses are not taught in a standard way, as is attempted in secondary school where students are assessed via standard achievement tests. In the university, no two lecturers will teach the same course in exactly the same way, even though the topics covered might be pretty much the same. Thus, university lecturers typically design their own tests, sometimes using source material test questions, such as from a text. But if university tests are not validated, what qualitative standard should they be expected to live up to? What is the difference between a "good" test and a "bad" test for a university course?

It is difficult to establish precise quality standards for a test, but the most important criteria for test quality would be the following:

:- Tests should have high correlation between results in scores and the extent of student accomplishment in the course. If the "best" students, or those that studied the most and mastered the material of the course the most get the highest grades on the test, then the latter can be considered an effective assessment of student accomplishment in the course. If the "good" students get mediocre grades, at best, on the test, the test may be considered unfair or too "hard". On the other hand, if "poor" students, or those that master the material to a lesser degree, get similar scores as those who master the course material to a greater extent, then the test could be considered too "easy", and also an ineffective assessment of student accomplishment in the course.

:- Test should be a good assessment of the student accomplishment of the learning objectives of the course. By this, I mean that the test should not only assess mastery of the material covered but also HOW the material should be mastered. For instance, if the material is to be mastered through memorization, then this calls for a certain type of test format and not others. When I was here in the sixties with the Peace Corps one

of my assignments was to write the history exam questions for the state examinations for form three students. All of the test questions were in essay form. I preferred to use questions that called for understanding relationships of one subject and another. Such questions were rejected by my superiors in favor of "What is" "Define" and "List" kinds of questions, which could be answered from rote learning.

At the university the level of mastery of the taught material should be deeper than rote learning can produce. There should also be perception of relationships, analysis, application and problem solving as part of the learning objectives or outcomes. Of course, some of these things can be tested through means other than tests, but tests carry the most weight for determining

There should also be perception of relationships, analysis, application and problem solving as part of the learning objectives or outcomes

student accomplishment in the course.

:- Tests should be fair. To meet this criteria the test should not cover what was not properly presented in the class or what was not covered in assigned readings related to the material presented in the class. In this context, some lecturers make the mistake of taking test questions from source material like texts without careful consideration of whether the questions are fair, relative to the material presented in the class. In most instances, tests should be custom designed by the lecturers teaching the course and not taken from source materials that may have made mistaken assumptions about the material covered in the course.

:- Tests should be the product of clear, unambiguous communication. A test item that is misunderstood by the student can render the test both invalid and unfair. Writing a test is like writing anything else: the writer should ANTICIPATE how the words or expressions would be received by the reader. In final editing of the written product the writer should remove all possibilities of misunderstanding. This is especially required when the test is in English, and the students are not primary users of the English language. Of course, miscommunication can take place in Malay or any other language. But the potential pitfalls are more numerous in a trans-language situation. Allowing students to use English-Malay or Malay-English dictionaries during the test can help, somewhat. But dictionaries only address non-familiar vocabulary items, not poor expression. My uniform approach in test writing is to use language at around an 8th grade level in the US or a primary six level here-about the same level as most newspapers. Very simple language can be used to evoke very complicated answers.

:- The test should be properly timed. There are standard tests-intelligence, aptitude and many achievement tests-in which time is an integral component of the assessment. This is not the case with most university course exams. Timing is a factor, but the objective should be to prevent it from being a hindrance or obstacle to successful test taking. In other words it is better to give slightly more time than needed to complete the test than not enough

Timing is a factor, but the objective should be to prevent it from being a hindrance or obstacle to successful test taking

time. If the allotted time for test taking is two hours, the design of the test should be such that a student who knows the answers can complete the test and be able to check all answers before the elapse of the two hours. If the time allocated for the test is inadequate, then the test becomes an invalid assessment of student accomplishment in the course.

:- As mentioned above, the test must be designed to assess accomplishment of the course objectives. If the course objectives are simply the recall of information learned by rote, then that calls for one kind of question design-"What is-" "List three of the four-". If the objectives of the course not only includes recall of information but also analysis of the information then that calls for a different kind of question like, "What is the relationship between performance appraisal and HRD?" And if the objectives include recall, analysis and application of the information presented then case studies followed by questions requiring problem solving may be required. Or hypothetical questions can be asked such as "If an organization is experiencing too many employees receiving the top appraisal rating qualifying them for the top merit raise, explain what can be used to address the problem and how best to use it."

There is a prevailing myth among some lecturers that objective questions are EASIER than essay questions. Nothing could be further from the truth. Some of the most validated and challenging tests used are in objective format. Essay questions can ask for responses learned through rote in the same way as some objective questions. For instance, what is the difference between the question "List three common functions of the HR department." and "Three common functions of the HR department are _____, _____ and _____? Both questions call for playback of material learned through straight memorization of certain portions of the material presented in the course.

On the other hand, objective questions, if designed properly, can be a much more effective

assessment of student comprehension of the course material and of the ability to analyze and apply it. Understanding relationships or the ability to make the proper associations through a combination of recall and reasoning can be assessed in matching tests, such as the relationship between "Development and "Future Requirements; or "Training" and "Present KSA's." Recall, analysis and ability to apply for problem solving can be assessed with multiple-choice questions, such as the following:

"If an organization is experiencing a high degree of involuntary turnover, a possible remedy to this problem could be:
a. Elimination of post-selection verification
b. Improvement of the selection process
c. Improvement of performance management
d. None of the above
e. Both b. and c."

This question tests the student's retention because, to properly answer the question, the student must recall the meaning of involuntary turnover (as opposed to voluntary turnover), post-selection verification and performance management. It also tests the student's understanding of the relationship between involuntary turnover and post-selection verification, selection and performance management. Finally, it requires the student to use his understanding of these relationships to solve the problem of high involuntary turnover.

Essay questions have one primary difference from objective questions: they do test the student's ability at written exposition. But this is an advantage only if written exposition is a part of the test's assessment, which would be the case in a course on English or Malay composition, but would seldom be the case in other courses. In fact, to have English writing as part of the course evaluation, it would shift the assessment from what was taught in the course to what was not taught-English usage. This would be a very unfair shift for many students who are not native users of English. Some of these students may have sufficient language comprehension to effectively master the course material, but may not have the ability to clearly express their mastery on an answer to an essay question. On the other hand, their performance on objective questions could be quite a different story.

Whether essay or objective questions, if assessment of higher forms of learning-recognition of relationships, analysis and application for problem solving-is to be a function of the test, the design of each question has to be done very carefully, with due consideration to what was covered in the course-not only in terms of topics but also in terms of manner of coverage. For instance, the lecturer may cover in detail relationships between one topic and another and how to use insights into the material to solve specific problems. That is fine. But if the test uses the same situations for identifying relationships or for application for problem solving, then the test is not an assessment of these higher forms of learning, but of simple retention-the student simply plays back on the test what was retained from the class.

There is one type of test which has not been mentioned thus far-open book (or open note). This type is more appropriate for a quiz, rather than a midterm or final test. To be effective, questions used with this format cannot test simple retention. Instead, they must require the student to select the proper information to apply it to solve a problem, which cannot be too complicated to deal with within the allotted time. Provided the students have sufficient source material-text, other books, notes, this type of test can very effective at getting the students to quickly become familiar with important course material and reason with it sufficiently to apply it for problem solving purposes.

Designing clear and effective test questions that properly assess student learning in a course is not an easily acquired skill. It comes with experience and quite a bit of trial and error. But the best answer to the challenge of test design is not to steal test questions from texts or other source material. The best answer for the lecturer is practice, practice, practice.

Open Source Software: Current Usage and Future Trends in UNIMAS

By: Johari Abdullah ajohari@fit.unimas.my

Introduction

Open Source Software (OSS) refers to software that is developed, tested, or improved through public collaboration and distributed with the idea that it must be shared with others, ensuring open future collaboration. Open Source has emerged as a powerful new way to generate knowledge and economic value. It is available to anyone at usually little or no cost, it does not attract proprietary licence fees and it may be freely re-distributed. Users also have access to the "source code" revealing the inner workings of the software; hence the term "open source". Such access has the potential to empower people in ways that proprietary software (PS) does not allow. It offers users the choice to probe, modify, learn from and customize the software, harnessing the power of many small contributions from a large network of individual. To suit their needs, Open Source supports a rapid evolutionary process that produces better products in less time than the traditional closed model [1].

OSS has seen phenomenal success in other countries such as US, UK, Europe, and Australia, since the idea was introduced in 1998. Up till now, most OSS deployments have been in invisible infrastructure applications running on back-office servers such as the Linux operating system, and the Apache web server. In more recent times, OSS products have started to be deployed in more visible applications, desktop applications for word processing, spreadsheet and email.

OSS has recently attracted much attention in Malaysia. The Malaysian government has recently released a policy framework for the implementation of OSS within government agencies. Such a move is a clear sign that the government is supporting the usage of OSS [2].

It offers users the choice to probe, modify, learn from and customize the software, harnessing the power of many small contributions from a large network of individual

History of Open Source

The idea of building software within a cooperating community, where the source code is made available so that everyone could modify and redistribute it began with the GNU project at MIT in the early 1980s. The intention was to provide freedom relating to software systems. During that era, the community of programmers was small, and close-knit. Software code was passed back and forth between the members of the community. Any improvement on the original source code was expected to be submitted to the community of developers. The term "open source" was created in early 1998 [3,4].

Possible usage of OSS in UNIMAS

There are several areas in UNIMAS where OSS might be useful. These areas include:

i) Teaching: OSS can be used as a platform to teach subjects especially in the area of computer science, information technology and engineering [5]. Currently, the Faculty of Computer Science and Information Technology (UNIMAS) has already integrated OSS in several subjects in its curriculum.

ii) Research: OSS can be used by researchers as a tool to conduct their research projects (Fundamental Research Grant and IRPA). Using OSS, researchers can now have access to software tools previously unavailable due to high costs. One example is using grid computing to perform computational intensive calculations in the area of bioinformatics, and modeling [6].

iii) Learning: Students can use OSS as part of their learning tool, for instance using OSS as part of their daily educational activities (accessing lecture notes, Internet, email service, and online discussion).

iv) Administrative: OSS can be used as the main components of the UNIMAS network such as email server, router, web server, proxy server, and DNS server.

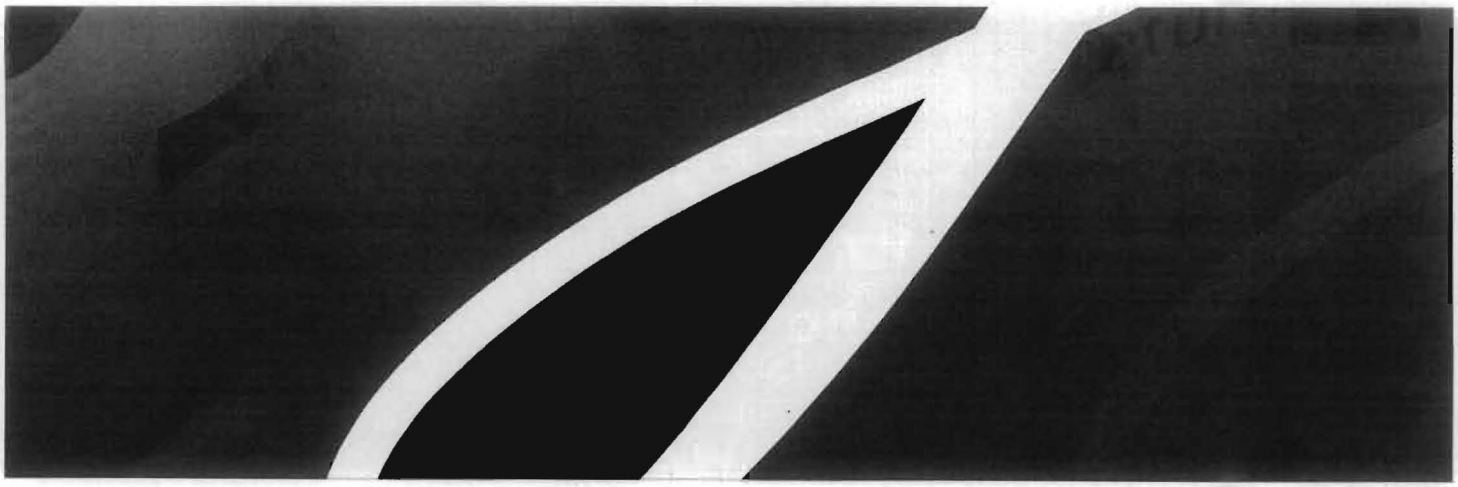
v) End user computing: OSS can be part of end user computing activities, such as, accessing email service, intranet, Internet, and others.

Advantages of OSS

The major advantage of OSS is the ability to enhance and extend OSS to suit the specific needs of the faculties in UNIMAS.

In summary, the major benefits of open software and open standards to UNIMAS include:

- Reduced costs and less



dependency on imported technology and skills: Currently, the yearly expenditure for proprietary software in UNIMAS is substantial. Huge saving can be obtained with the usage of OSS. The cost of running Linux is roughly 40% of running Microsoft Windows, and only 14% of Sun Microsystem's Solaris [7].

- Affordable software for students, lecturers/researchers and administrator: One of the limiting factors in using relevant software in teaching and learning is the cost of purchasing the software. By using OSS, teaching and learning can be conducted more effectively. Making software available at no cost or affordable cost may also reduce the rate of piracy.

- Freedom to enhance and extend existing software: Rather than being mere software users, OSS can encourage the culture of innovation, producing and possibly exporting our product to other countries. This is possible since the source code of OSS is available to anyone, thus enabling the extension and enhancement of the software.

- Ability to customize software to local languages and cultures: The ability to localize software using OSS can bridge the digital gap especially in rural areas where the usage of English is minimal or non-existent. One example is the localization of word processor software (Abiword) into the Kelabit language.

- Avoiding lock-in to specific vendor: When using proprietary software, there is a possibility that we will be locked-in to specific vendor since we do not have the means to make changes or extend the software to our own specific needs.

Rather than being mere software users, OSS can encourage the culture of innovation, producing and possibly exporting our product to other countries

- Freedom to redistribute: When we build our own software, we are free to redistribute to other organizations, thus facilitating the sharing of knowledge, and also contributing to the society.

Challenges of OSS in UNIMAS

In order to promote awareness and implement OSS in UNIMAS, there are several challenges. The following is a summary of the challenges:

Lack of awareness
Unaware of alternatives to proprietary software. This is due to the fact that OSS is created and used by hobbyists. Therefore, the information is only available to these groups of people. Even though there are many OSS with similar capabilities with the proprietary version, many people are not aware of them (OSS) due to lack of information.

Lack of motivation
With easy access to pirated software, there is little interest to use OSS solution.

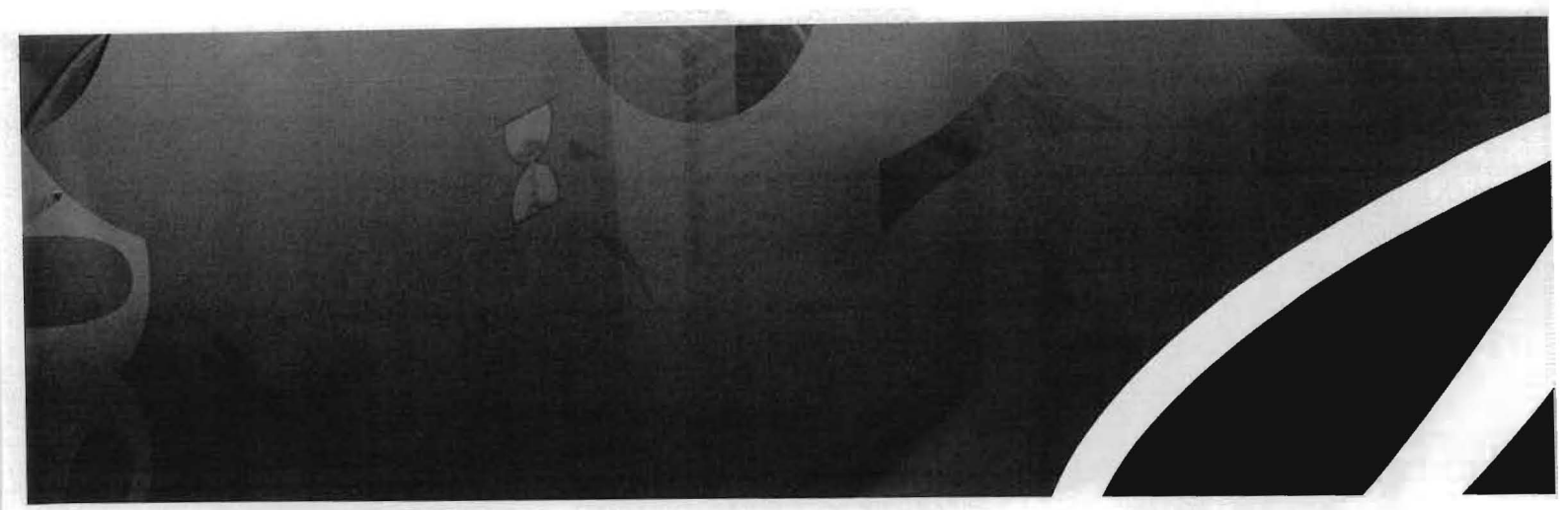
Lack of support
The introduction and implementation of OSS requires support from many parties in terms of formulation of policies, finances, training, and commitment.

Lack of trained personnel
Currently, the pool of trained personnel in the area of OSS is small and limited to technical personnel.

Actions that can be taken to overcome these challenges include the following:

Lack of awareness:
This can be overcome by regular promotion of OSS through workshops, training, competitions (programming competition), and the UNIMAS website.

Lack of motivation:
UNIMAS could avoid this problem



by encouraging the use of free Open Source programs such as OpenOffice or GIMP instead of proprietary programs Microsoft Office or Photoshop; then students would be free to install as many copies as they like, and would still not violate copyright laws.

Lack of support:
Action that can be taken is to introduce usage and purchase policies that encourage the usage of OSS in UNIMAS.

Lack of trained personnel:
This challenge can be overcome only by conducting regular training session through workshop and seminar to create sufficient pool of technical personnel to handle the deployment of OSS in UNIMAS.

Current OSS trend in UNIMAS

In UNIMAS, the first crucial step is to create awareness regarding the usage and implementation of OSS. A seminar and workshop have been conducted in February 2004 and was attended by UNIMAS staff and also representatives from the government and private sectors. An interest group (UNIMAS OSSIG – UNIMAS Open Source Software Special Interest Group) has been formed to handle activities related to OSS in UNIMAS. Other activities which are planned are to establish an Internet portal to host news, announcements, and documents related to OSS. There are also plans to create awareness in other organizations outside UNIMAS especially in schools.
The ensuing step is to conduct regular training through workshops and training sessions to create a pool of knowledgeable personnel in areas of OSS especially on the technical side. At the moment, FCSIT conducts monthly workshop for students, technical staffs, and lecturers. A good way to equip students with the skill to use OSS is to integrate the knowledge within generic courses, such as, TMX1011: Introduction to Computing. Apart from that, there is a plan to initiate Linux User Group for students whereby they will organize monthly activities.

Conclusion

The availability of OSS provides an alternative choice which can be utilized by UNIMAS in suitable areas. By using OSS, hopefully UNIMAS can reap the benefits available through the usage and implementation of OSS.

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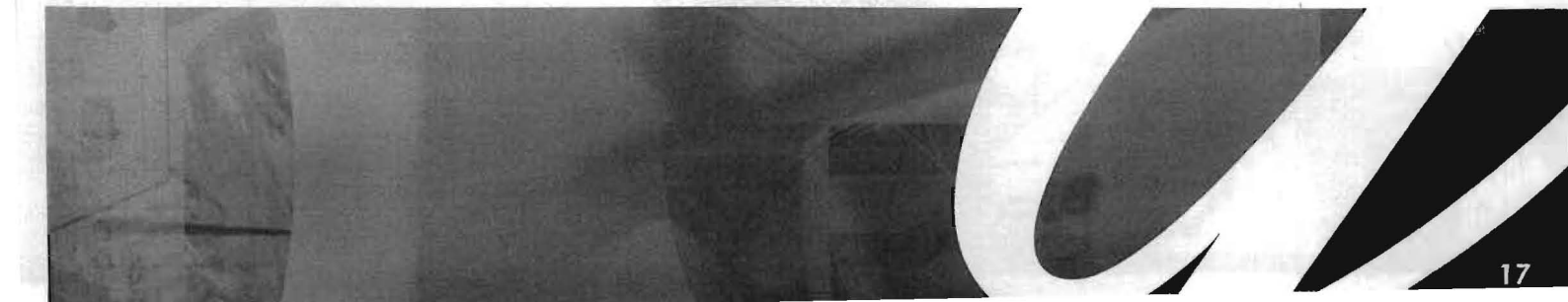

Relating Human Factor to Aircraft Safety

By:
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I was flying over four continents, and in four different aircrafts from Kuching on my way to South Bend in Indiana, USA, in August 2004 when I first pondering over writing this article. It is a big wonder to me at how the people involved in the manning and coordination of the flights making their decision to ensure it is always a safe flight.

We make decisions everyday and most of the day. Decision-making is so frequent that we take its exercise for granted. Driving an automobile requires multiple decisions, which eventually generate fatigue, although most people are hardly aware of any choices. Only when we are faced with major decisions, with a fork in the road, and with equal attraction to either side, do we wonder how to decide. Seeking advice when we are perplexed with heavy indecision often leaves us just as undecided; if the choice is between two good courses to follow, what is needed is a discrimination between arguments, both of which make persuasive appeal. When torn with indecision, we say that we are going around in circles, repeating arguments that weight both sides but do not convince nor lead to resolution. A clear and sharp decision cuts the circular argumentation, and the root of the word "decide" expresses just that. To decide is to cut off, to cut away from, to draw a line across, to move in one direction away from the endless going around in circles that characterizes indecision. Psychologically speaking, however such indecision does not exist. We always are committed and decided. More often, our decision is to remain without a decision. In effect, we have decided to decide not to decide. Since human being are created to move toward the good, not to decide seems a failure.

Decisions are made out of matters that matter. How are good decisions made? To make a good decision, a human being must assemble all the relevant information carefully. Preliminary to every decision, this task is the longest part of a decision and in many ways the easiest part. We should seek competent advice of friends, family, experts and our own self-knowledge. We should consult books and meditate over our thoughts and listen to the language of our bodies. We should consult our conscience and use our judgment, learn our strengths and weaknesses, and know something of what decision "A" will

bring, and decision "B," should we follow either one. To make a good decision we must weigh the data, give a relative importance to contradictory and competing estimates, set priorities, and determine our final end. All this is written to sound more complicated than it is. In short, to make a decision requires only two things; sufficient information and an evaluation of what matters.

Consider a computer on board an aircraft. Information of all kinds is introduced. Data about speed, altitude, location, weather, temperature, and fuel pour in faster than human beings can

To make a good decision we must weigh the data, give a relative importance to contradictory and competing estimates, set priorities, and determine our final end

reason. The machine that runs at the speed of light can seemingly make an instantaneous decision about the course of action to be taken now. The only provision is that the "data-in" be accurate and sufficient and that the computer was programmed to give a correct relative importance to the avalanche of information that it must search for a decision. In this example, the computer mimics the mind that made it, loaded it, and all importantly, programmed it wisely. As they say of computers: garbage in, garbage out.

Flying an aircraft is a complex environment that involves various parties. A successful flight journey from one point to another point requires perfect coordination of air traffic control service, pilot and aircraft. Sometimes the coordination could be 'slips' or 'mistakes', and thus the cause of an accident. 'Slips' could be defined as skill-based errors that happened when an action is incorrectly performed, frequently during familiar work that requires little attention. 'Mistakes', on the other hand, are either rule-based or knowledge-based errors and associated with problem solving.

In the past, manned flight was fraught with risks. Over the years, the safety of manned flights has improved, owing to the skilled activity and diligence of the pilots in controlling the risks associated with flight. It would, however, be unfair to credit all this improvement to a single cause. Understandably, many other factors have been contributing factors. Among them being the major advances in the technology of materials, engines and aerodynamics have also been important, as has the gradual implementation of better ergonomic environments for pilots, and the significant role of fail-safety system in the overall aircraft safety. In viewing aviation safety in terms of a system approach, we have to discard the notion of an "accident happening to an aircraft" and adopt the view that accidents are an emergent property of the aviation system.

In a current research project carried out in Unimas, flying an aircraft is described by two major

systems, namely the technical systems (i.e. aircraft physical systems) and the human aspects (i.e. pilots). The interactions between technical and human systems are further described as socio-technical system. The large civilian aircraft is formed by many sub-systems and finally become a complex socio-technical system. This research project is aims to develop a mathematical model that can simulate the effect of various parameters contributed from different sub-systems on aircraft safety. With the relevant and reliable results, this model can be a useful tool to monitor and control aircraft systems as one may find in the cockpit resource management of an aircraft, and to able to predict the possible malfunctions, and thus to improve on air safety. Air accident could then become a manageable incident.

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Academic Quality Assurance workshop on 26- 28 August 2004 at Unimas Training Centre, Bau.

Our beloved Tun Dr Mahathir Mohamad in accepting the conferment of Doctorate of Development Studies at Unimas Special Convocation on October 2, 2004.

Scenes during FCSIT Academic Quality Assurance External Auditing by Higher Education Department on 13-15 December 2004.